

## Product datasheet

# Human MAPK1 (ERK2) knockout HeLa cell lysate ab257525

[1 References](#) [4 Images](#)

### Overview

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<b>Product name</b>	Human MAPK1 (ERK2) knockout HeLa cell lysate
<b>Product overview</b>	Knockout cell lysate achieved by CRISPR/Cas9.
<b>Parental Cell Line</b>	HeLa
<b>Organism</b>	Human
<b>Mutation description</b>	Knockout achieved by using CRISPR/Cas9, 1 bp deletion in exon 2 and Insertion of the selection cassette in exon 2.
<b>Passage number</b>	<20
<b>Knockout validation</b>	Sanger Sequencing, Western Blot (WB)
<b>Reconstitution notes</b>	To use as WB control, resuspend the lyophilizate in 50 µL of LDS* Sample Buffer to have a final concentration of 2 mg/ml. For reducing conditions, we recommend a final concentration of 0.1 M DTT. <i>*Usage of SDS sample buffer is not recommended with these lyophilized lysates.</i>

### Notes

**Lysate preparation:** Our lysates are made using RIPA buffer to which we add a protease inhibitor cocktail and phosphatase inhibitor cocktail (ratio: 300:100:10). *This means that the protein of interest is denatured.* If you require a native form of the protein please use the live cell version - found [here](#). Please refer to our lysis protocol for further details on how our lysates are prepared.

**User storage instructions:** Lyophilizate may be stored at 4°C. After reconstitution, store at -20°C for short-term storage or -80°C for long-term storage.

Access thousands of knockout cell lysates, generated from commonly used cancer cell lines. [See here for more information on knockout cell lysates.](#)

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Tested applications

Suitable for: WB

## Properties

### Storage instructions

Store at -80°C. Please refer to protocols.

Components	1 kit
ab260266 - Human MAPK1 knockout HeLa cell lysate	1 x 100µg
ab255552 - Human wild-type HeLa cell lysate	1 x 100µg

### Cell type

epithelial

### Disease

Adenocarcinoma

### Gender

Female

### STR Analysis

Amelogenin X D5S818: 11, 12 D13S317: 12, 13.3 D7S820: 8, 12 D16S539: 9, 10 vWA: 16, 18 TH01: 7 TPOX: 8, 12 CSF1PO: 9, 10

## Target

### Function

Involved in both the initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors such as ELK1. Phosphorylates EIF4EBP1; required for initiation of translation. Phosphorylates microtubule-associated protein 2 (MAP2). Phosphorylates SPZ1 (By similarity). Phosphorylates heat shock factor protein 4 (HSF4) and ARHGEF2. Acts as a transcriptional repressor. Binds to a [GC]AAA[GC] consensus sequence. Repress the expression of interferon gamma-induced genes. Seems to bind to the promoter of CCL5, DMP1, IFIH1, IFITM1, IRF7, IRF9, LAMP3, OAS1, OAS2, OAS3 and STAT1. Transcriptional activity is independent of kinase activity.

### Sequence similarities

Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. MAP kinase subfamily. Contains 1 protein kinase domain.

### Domain

The TXY motif contains the threonine and tyrosine residues whose phosphorylation activates the MAP kinases.

### Post-translational modifications

Dually phosphorylated on Thr-185 and Tyr-187, which activates the enzyme. Dephosphorylated by PTPRJ at Tyr-187.

### Cellular localization

Nucleus.

## Applications

### The Abpromise guarantee

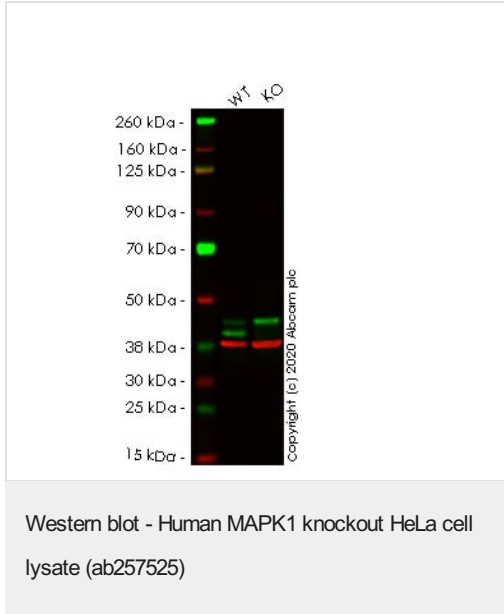
Our **Abpromise guarantee** covers the use of ab257525 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 41 kDa.

## Images

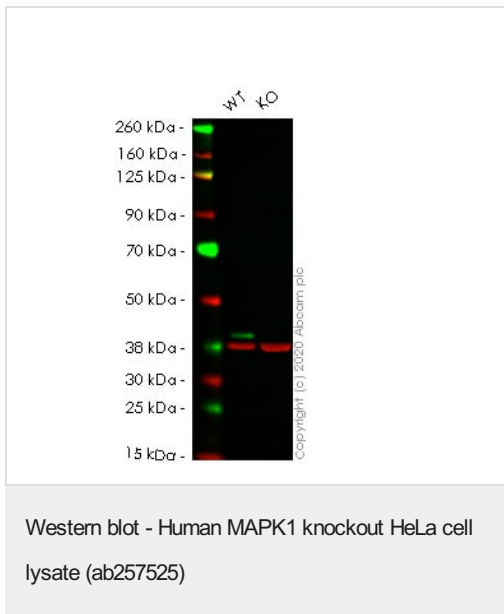


**Lane 1:** Wild-type HeLa cell lysate (20 µg)

**Lane 2:** MAPK1 knockout HeLa cell lysate (20 µg)

**Lanes 1-2:** Merged signal (red and green). Green - **ab184699** observed at 44 kDa. Red - loading control **ab8245** observed at 37 kDa.

**ab184699** Anti-ERK1 + ERK2 antibody [EPR17526] was shown to specifically react with ERK2 in wild-type HeLa cells. Loss of signal was observed when knockout cell line **ab265052** (knockout cell lysate ab257525) was used. Wild-type and ERK2 knockout samples were subjected to SDS-PAGE. **ab184699** and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) were incubated overnight at 4°C at 1 in 10000 Dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.



**Lane 1:** Wild-type HeLa cell lysate (20 µg)

**Lane 2:** MAPK1 knockout HeLa cell lysate (20 µg)

**Lanes 1-2:** Merged signal (red and green). Green - **ab32081** observed at 41 kDa. Red - loading control **ab8245** observed at 37 kDa.

**ab32081** Anti-ERK2 antibody [E460] was shown to specifically react with ERK2 in wild-type HeLa cells. Loss of signal was observed when knockout cell line **ab265052** (knockout cell lysate ab257525) was used. Wild-type and ERK2 knockout samples were subjected to SDS-PAGE. **ab32081** and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) were incubated overnight at 4°C at 1 in 1000 Dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (**ab216773**) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (**ab216776**) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

Mut	AAGCGCAGTAAGATTTTTATCTCCCTCAGG- TTCTCTGGCAGTAGGTCTGGTGC TCAAAG
WT	AAGCGCAGTAAGATTTTTATCTCCCTCAGGGTTCTCTGGCAGTAGGTCTGGTGC TCAAAG

Sanger Sequencing - Human MAPK1 knockout  
HeLa cell lysate (ab257525)

Allele-1: 1 bp deletion in exon 2

Mut	AGATTTTATCTCCCTCAGG****Insertion*****GTTCTCTGGCAGTAGGTCTG
WT	AGATTTTATCTCCCTCAGG GTTCTCTGGCAGTAGGTCTG

Sanger Sequencing - Human MAPK1 knockout  
HeLa cell lysate (ab257525)

Allele-2: Insertion of the selection cassette in exon 2

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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